Oriental motor

HM-9384-3

OPERATING MANUAL

KII Series Induction Motor

Thank you for purchasing an Oriental Motor product.
This Operating Manual describes product handling procedures and safety precautions.
- Please read it thoroughly to ensure safe operation.
- Always keep the manual where it is readily available.

Introduction

■ Before using the motor

Only qualified personnel should work with the product. Use the product correctly after thoroughly reading the section "Safety precautions." In addition, be sure to observe the contents described in warning, caution, and note in this manual.
The product described in this manual has been designed and manufactured to be incorporated in general industrial equipment. Do not use for any other purpose. Oriental Motor Co., Ltd. is not responsible for any damage caused through failure to observe this warning.

Safety precautions

The precautions described below are intended to prevent danger or injury to the user and other personnel through safe, correct use of the product. Use the product only after carefully reading and fully understanding these instructions.

⚠Warning	Handling the product without observing the instructions that accompany a "Warning" symbol may result in serious injury or death.
⚠Caution	Handling the product without observing the instructions that accompany a "Caution" symbol may result in injury or property damage.
Note	The items under this heading contain important handling instructions that the user should observe to ensure safe use of the product.

⚠Warning

- Do not use the product in explosive or corrosive environments, in the presence of flammable gases, or near combustibles. Doing so may result in fire, electric shock or injury.
- Only qualified and educated personnel should be allowed to perform installation, connection, operation and inspection/troubleshooting of the product. Handling by unqualified and uneducated personnel may result in fire, electric shock, injury or equipment damage.
- Do not transport, install the product, perform connections or inspections when the power is on. Always turn the power off before carrying out these operations. Failure to do so may result in electric shock.
- Turn off the power in the event the overheat protection device (thermal protector) is triggered. Failure to do so may result in injury or damage to equipment, since the motor will start abruptly when the overheat protection device (thermal protector) is automatically reset.
- The motor is Class Ⅰ equipment. Install the motor so as to avoid contact with hands, or ground it to prevent the risk of electric shock.
- Keep the input power voltage within the specified range. Failure to do so may result in fire or electric shock.
- Securely connect the cables in accordance with the connection examples. Failure to do so may result in fire or electric shock.
- Do not forcibly bend, pull or pinch the lead wire (cable). Doing so may result in fire and electric shock.
- Insulate the connection terminals of the supplied capacitor using the supplied capacitor cap. Failure to do so may result in electric shock.
- Turn off the power in the event of a power failure. Or the motor may suddenly start when the power is restored and may cause injury or damage to equipment.
- Do not touch the connection terminal of the capacitor immediately after the power is turned off (for a period of 30 seconds). The residual voltage may cause electric shock.
- Do not disassemble or modify the motor. This may cause electric shock or injury.

⚠Caution

- Do not use the motor beyond its specifications. Doing so may result in electric shock, injury or damage to equipment.
- Do not touch the motor during operation or immediately after stopping. The surface is hot and may cause a skin burn(s).
- Do not lift the motor by holding the motor output shaft or motor lead wire (cable). Doing so may result in injury.
- Keep the area around the motor free of combustible materials. Failure to do so may result in fire or a skin burn(s).
- Do not leave anything around the motor that would obstruct ventilation. Doing so may result in damage to equipment.
- Do not touch the rotating part (output shaft) while operating the motor. Doing so may result in injury.
- When an abnormality is noted, turn off the power immediately. Failure to do so may result in fire, electrical shock or injury.
- The motor surface temperature may exceed 70 °C (158 °F) even under normal operating conditions. If the operator is allowed to approach the running motor, attach a warning label as shown in the figure in a conspicuous position. Failure to do so may result in a skin burn(s).

Warning label

- Dispose the product correctly in accordance with laws and regulations, or instructions of local governments.

Preparation

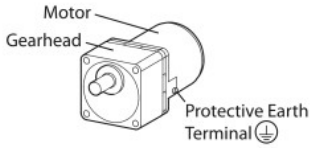
■ Checking the product

Verify that the items listed below are included. Report any missing or damaged items to the branch or sales office from which you purchased the product.

☐ Motor ..... 1 unit
The combination type comes with the motor and its dedicated gearhead pre-assembled.
☐ Capacitor ..... 1 piece
☐ Capacitor cap ..... 1 piece
☐ Mounting screw set ..... 1 set (only for combination type)
Hexagonal socket head screw, washer, spring washer 4 pieces each, parallel key 1 piece
☐ OPERATING MANUAL ..... 1 copy (this document)

■ Checking the model name

Check the model names of the motor and the gearhead against the model name described on each nameplate.
The figures show the lead wire type.
A decimal gearhead is attached depending on the gear ratio.



■: Enter a motor classification representing the power supply voltage.
JA: Single-phase 100 V 50/60 Hz **JC**: Single-phase 200 V 50/60 Hz
UA: Single-phase 110/115 V 60 Hz **UC**: Single-phase 220/230 V 60 Hz
GC: Single-phase 220/230 V 50 Hz
◇: Enter a number representing the gear ratio of the combination type.
☐: Enter a number representing the gear ratio of the gearhead.

● Combination type

Lead wire type (Degree of protection: IP20)

Combination type		Motor model	Gearhead		Decimal gearhead model
Model	Gear ratio (◇)		Model	Gear ratio (☐)	
2IK6■-◇	**2** to **360**	2IK6GV-■	2GV☐B	**2** to **360**	–
	500 to **3600**			**50** to **360**	2GV10X
3IK15■-◇	**2** to **360**	3IK15GV-■	3GV☐B	**2** to **360**	–
	500 to **3600**			**50** to **360**	3GV10X
4IK25■-◇	**2** to **360**	4IK25GV-■	4GV☐B	**2** to **360**	–
	500 to **3600**			**50** to **360**	4GV10X
5IK40■-◇	**2** to **300**	5IK40GV-■	5GV☐B	**2** to **300**	–
	360 to **3000**			**36** to **300**	5GV10X
5IK60■-◇	**2** to **300**	5IK60GVH-■	5GVH☐B	**2** to **300**	–
5IK90■-◇	**3** to **180**	5IK90GVR-■	5GVR☐B	**3** to **180**	–

A gear ratio of the combination type attached a decimal gearhead is ten times as the gear ratio of the gearhead.

Terminal Box Type

Combination type		Motor model	Gearhead		Degree of protection
Model	Gear ratio (◇)		Model	Gear ratio (☐)	
4IK25■T2-◇	**2** to **360**	4IK25GV-■T2	4GV☐B	**2** to **360**	IP66
5IK40■T2-◇	**2** to **300**	5IK40GV-■T2	5GV☐B	**2** to **300**	
5IK60■T2-◇＊	**2** to **300**	5IK60GVH-■T2＊	5GVH☐B	**2** to **300**	IP54
5IK90■T2-◇	**3** to **180**	5IK90GVR-■T2	5GVR☐B	**3** to **180**	

＊ The degree of protection for the **5IK60GCT2-☐** and 5IK60GVH-GCT2 is rated at IP66.

● Round shaft type

For the model name of the round shaft type, "A" is used instead of "GV", "GVH" or "GVR" in the "motor model name," which indicates the motor shaft type.
(For the degree of protection for the round shaft type, the motor mounting surface is excluded.)

Installation

■ Location for installation

Install it in a well-ventilated location that provides easy access for inspection.

[Common conditions]

- Operating ambient temperature
  Classification representing the power supply voltage
  JA/**JC**: −10＊ to +50 °C (+14 to +122 °F) (non-freezing)
  UA/**UC**/**GC**: −10＊ to +40 °C (+14 to +104 °F) (non-freezing)
  ＊ The lowest temperature is 0 °C (+32 °F) for gearheads of the gear ratio 2 and 3.
- Operating ambient humidity 85% or less (non-condensing)